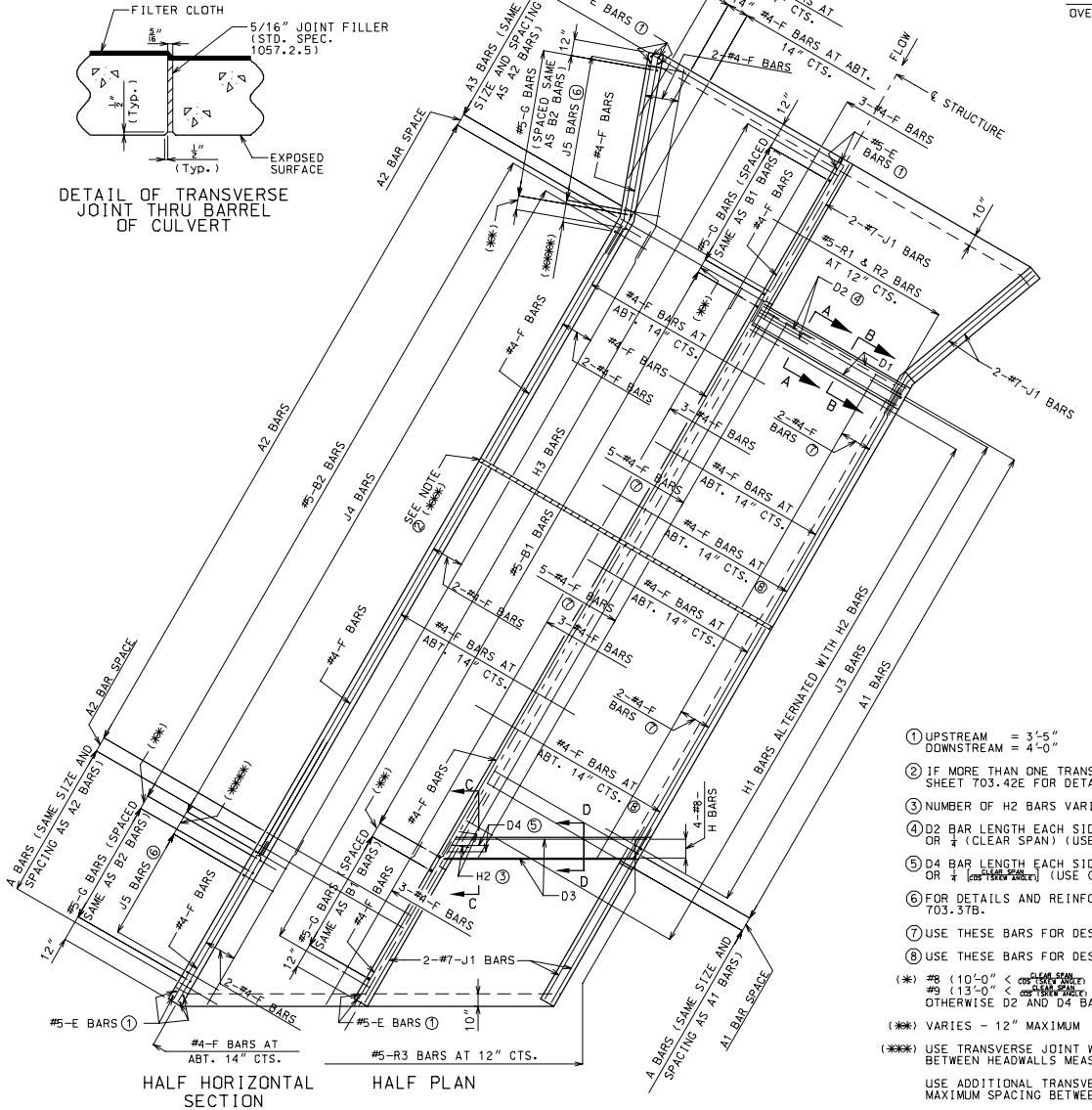
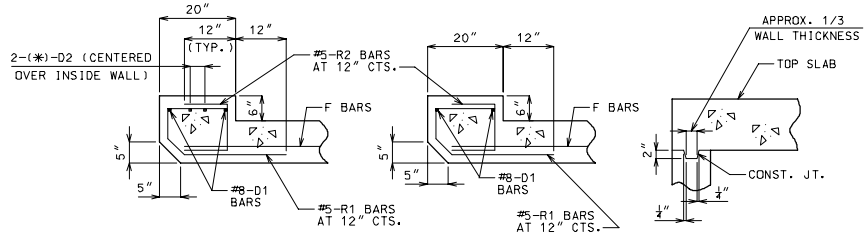
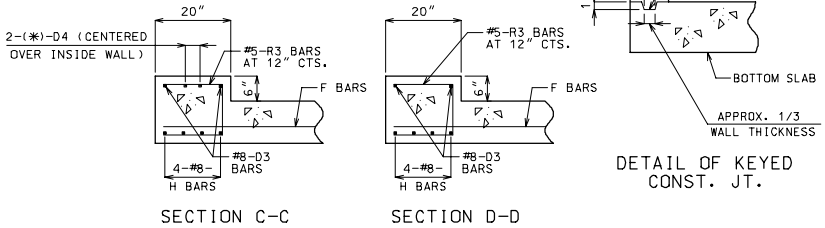






(1) UPSTREAM = 3'-5"
DOWNSTREAM = 4'-0"

(2) IF MORE THAN ONE TRANSVERSE JOINT IS REQUIRED, SEE STANDARD SHEET 703.42E FOR DETAILS.

(3) NUMBER OF H2 BARS VARIES WITH SKEW.

(4) D2 BAR LENGTH EACH SIDE OF ℄ WALLS = 48 BAR DIAMETERS OR $\frac{1}{4}$ (CLEAR SPAN) (USE GREATER).

(5) D4 BAR LENGTH EACH SIDE OF ℄ WALLS = 48 BAR DIAMETERS OR $\frac{1}{4}\left(\frac{\text{CLEAR SPAN}}{\cos(\text{SKEW ANGLE})}\right)$ (USE GREATER).

(6) FOR DETAILS AND REINFORCEMENT IN WINGS, SEE STANDARD SHEET 703.37B.

(7) USE THESE BARS FOR DESIGN FILLS OF MORE THAN 2'-0".

(8) USE THESE BARS FOR DESIGN FILLS OF 2'-0" OR LESS.

(*) #8 $\left(10'\text{-}0" < \frac{\text{CLEAR SPAN}}{\cos(\text{SKEW ANGLE})} \leq 13'\text{-}0"\right)$
#9 $\left(13'\text{-}0" < \frac{\text{CLEAR SPAN}}{\cos(\text{SKEW ANGLE})}\right)$
OTHERWISE D2 AND D4 BARS SHALL NOT BE USED.

(**) VARIES - 12" MAXIMUM

(***) USE TRANSVERSE JOINT WHEN BARREL IS OVER 80 FEET LONG BETWEEN HEADWALLS MEASURED ALONG ℄ OF BOX.

USE ADDITIONAL TRANSVERSE JOINTS TO PROVIDE 50 FEET MAXIMUM SPACING BETWEEN JOINTS.

DISTANCE BETWEEN INSIDE FACE OF HEADWALL AND TRANSVERSE JOINT SHALL NOT BE LESS THAN 3'-0".

(****) J4 BAR SPACING

GENERAL NOTES:

DESIGN UNIT STRESSES:
CLASS B-1 CONCRETE, f'_c = 28 MPa
REINFORCING STEEL (GRADE 420), f_y = 420 MPa

ALL DIMENSIONS SHOWN ARE IN INCH UNLESS OTHERWISE NOTED.

FOR DIMENSIONS AND SIZE AND SPACING OF REINFORCING STEEL. SEE STANDARD SHEET 703.45B.

LAP ALL LONGITUDINAL BARS A MINIMUM OF 23" AT SPLICES.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2" UNLESS OTHERWISE SHOWN.

JOINT FILLER SHALL BE SECURELY STITCHED TO ONE FACE OF THE CONCRETE WITH NO. 10 GAGE COPPER WIRE OR NO. 12 GAGE SOFT DRAWN GALVANIZED STEEL WIRE.

BEVELED HEADWALL TO BE LOCATED AT UPSTREAM END.

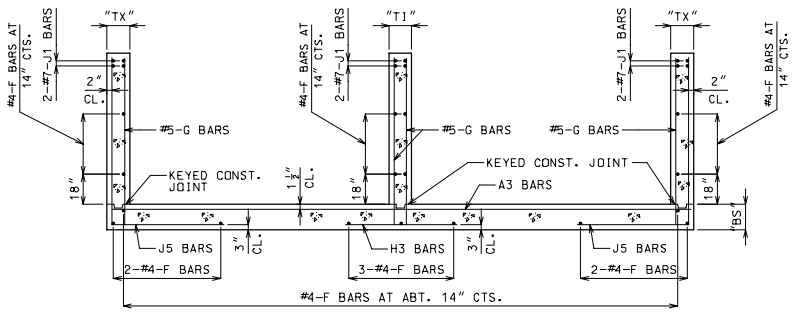
A FILTER CLOTH 3 FEET IN WIDTH AND DOUBLE THICKNESS SHALL BE APPLIED TO ALL TRANSVERSE JOINTS IN THE TOP SLAB AND SIDEWALLS. THE MATERIAL SHALL BE CENTERED ON THE JOINT AND THE EDGES SEALED WITH A MASTIC OR WITH TWO SIDED TAPE. THE FILTER CLOTH SHALL BE A GEOTEXTILE MEETING THE APPROVAL OF THE ENGINEER AND HAVING A GRAB TENSILE STRENGTH OF 180 LBS. (ASTM D-4632) AND AN APPARENT OPENING SIZE OF 50 TO 100 (ASTM D-4751). NO DIRECT PAYMENT WILL BE MADE FOR FURNISHING AND INSTALLING FILTER CLOTH.

FOR MORE DETAILS AND SECTION THROUGH BOX. SEE 703.44E SHEET 2 OF 2.

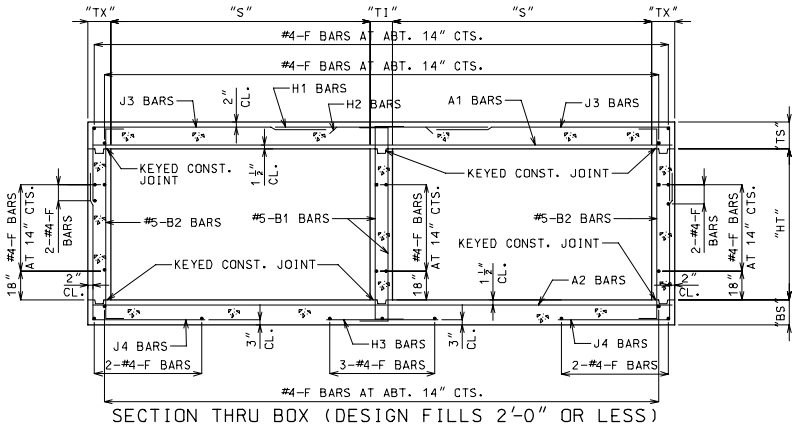
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

CONCRETE DOUBLE BOX STRUCTURE
FLARED WINGS (SKEWED)

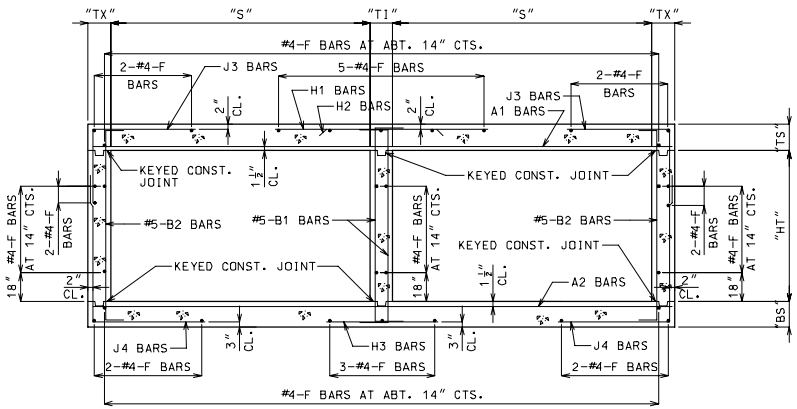
DATE: _____ | EFFECTIVE: 01-01-2003 | 703.44E | 1/2



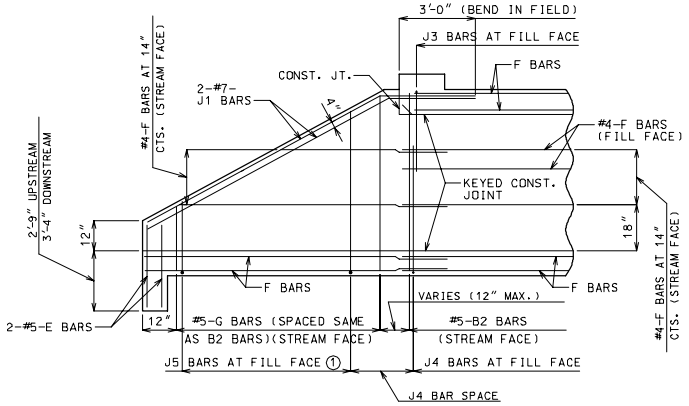
SECTION THRU WINGS (UPSTREAM SHOWN)



SECTION THRU BOX (DESIGN FILLS 2'-0" OR LESS)

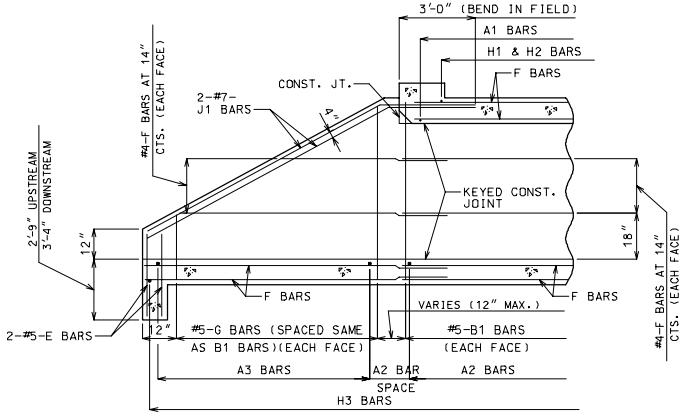


SECTION THRU BOX (DESIGN FILLS OVER 2'-0")



ELEVATION OF EXTERIOR WING
(UPSTREAM SHOWN)

NOTE: CONSTRUCTION JOINT KEY OMITTED FOR CLARITY.



SECTION NEAR INTERIOR WING
(UPSTREAM SHOWN)

GENERAL NOTES:

ALL DIMENSIONS SHOWN ARE IN INCH UNLESS OTHERWISE NOTED.

J1 BARS MAY BE BENT IN FIELD OR SHOP.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2" UNLESS OTHERWISE SHOWN.

FOR DIMENSIONS AND SIZE AND SPACING OF REINFORCING STEEL, SEE STANDARD SHEET 703.45B.

① FOR DETAILS OF REINFORCEMENT IN WINGS, SEE STANDARD SHEET 703.37B.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

CONCRETE DOUBLE BOX STRUCTURE FLARED WINGS (SKEWED)

DATE: _____ | EFFECTIVE: 01-01-2003 | 703.44E | 2/2